AMENDMENTS

In the Claims

Amendments to the Claims

This listing of claims, if entered, will replace all prior versions and listings of claims in the above-identified application.

1. **(Currently Amended)** A method comprising:

writing first and second data to first and second data volumes, respectively, wherein

the first data volume is a first primary volume,

~~**the first data volume is stored on one or more disk drives,**~~

the second data volume is a second primary volume,

~~**the second data volume is stored on one or more disk drives,**~~ and

the first and second data volumes are unrelated data volumes;

refreshing the second data volume to the data contents of the first data volume that existed at time T, wherein refreshing the second data volume **further** comprises

overwriting data of the second data volume with data of the first data volume that existed at time T_1

generating first and second maps in memory, wherein

each of the first and second maps comprises

a plurality of entries, wherein

each entry of the first map corresponds to a respective memory block that stores data of the first data volume, and

each entry of the second map corresponds to a respective memory block that stores data of the second data volume,

setting a first bit in each entry of the first map, wherein

each first bit of the first map is set to indicate its respective memory block stores valid data, and

clearing a first bit in each entry of the second map, wherein

each first bit of the second map is set to indicate its respective memory block stores invalid data;

modifying data of the first data volume while the second data volume is being refreshed to the data contents of the first data volume that existed at time T;

modifying data of the second data volume while the second data volume is being refreshed to the data contents of the first data volume that existed at time T; and

modifying data of the first data volume after the second data volume has been refreshed.

2. (Cancelled)

3. (Cancelled)

4. (Original) The method of claim 1 further comprising creating one or more PIT copies of the first data volume prior to refreshing the second data volume to the data contents of the first data volume.

5. (Previously Presented) The method of claim 4 wherein one of the PIT copies of the first data volume is in a virtual state when the second data volume is refreshed to the data contents of the first data volume.

6. (Previously Presented) The method of claim 1 further comprising an act of preserving the second data volume, wherein said preserving comprises creating one or more PIT copies of the second data volume prior to refreshing the second data volume to the data contents of the first data volume.

7. (Previously Presented) The method of claim 6 wherein one of the PIT copies of the second data volume is in the virtual state when the second data volume is refreshed to the data contents of the first data volume.

8. (Previously Presented) The method of claim 1 wherein the first data volume is a real or virtual PIT copy of another data volume when the second data volume is refreshed to the

data contents of the first data volume.

9. (Previously Presented) The method of claim 1 wherein the second data volume is a real or virtual PIT copy of another data volume when the second data volume is refreshed to the data contents of the first data volume.

10. (Cancelled)

11. (Cancelled)

12. **(Currently Amended)** The method of claim ~~11~~ further comprising:

setting or clearing a second bit in each entry of the second map to indicate that its respective memory block stores data needed for a PIT copy of the second data volume.

13. (Previously Presented) The method of claim 1 further comprising an act of preserving the second data volume, wherein said preserving comprises creating a PIT copy of the second data volume before or while refreshing the second data volume to the data contents of the first data volume.

14. (Cancelled)

15. **(Currently Amended)** A computer readable medium storing instructions executable by a computer system, wherein the computer system implements a method in response to executing the instructions, the method comprising:

writing data to a first and a second data volume, wherein

the first data volume is a first primary volume,

~~**the first data volume is stored on one or more disk drives,**~~

the second data volume is a second primary volume,

~~**the second data volume is stored on one or more disk drives,**~~ and

the first and second data volumes are unrelated data volumes;

refreshing the second data volume to the data contents of the first data volume that

existed at time T, wherein refreshing the second data volume **further** comprises overwriting data of the second data volume with data of the first data volume that existed at time T,

generating first and second maps in memory, wherein

each of the first and second maps comprises

a plurality of entries, wherein

each entry of the first map corresponds to a respective memory block that stores data of the first data volume, and

each entry of the second map corresponds to a respective memory block that stores data of the second data volume,

setting a first bit in each entry of the first map, wherein

each first bit of the first map is set to indicate its respective memory block stores valid data, and

clearing a first bit in each entry of the second map, wherein

each first bit of the second map is set to indicate its respective memory block stores invalid data

~~**and wherein the first data volume is unrelated to the second data volume prior to refreshing the second data volume to the data contents of the first data volume**~~;

modifying data of the first data volume while the second data volume is being refreshed to the data contents of the first data volume that existed at time T;

modifying data of the second data volume while the second data volume is being refreshed to the data contents of the first data volume that existed at time T; and

modifying data of the first data volume after the second data volume has been refreshed.

16. (Cancelled)

17. (Cancelled)

18. (Previously Presented) The computer readable medium of claim 15 wherein the method further comprises creating one or more PIT copies of the first data volume prior to refreshing the second data volume to the data contents of the first data volume.

19. (Previously Presented) The computer readable medium of claim 18 wherein one of the PIT copies of the first data volume is in the virtual state when the second data volume is refreshed to the data contents of the first data volume.

20. (Previously Presented) The computer readable medium of claim 15 further comprising an act of preserving the second data volume, wherein said preserving further comprises creating one or more PIT copies of the second data volume prior to refreshing the second data volume to the data of the first data volume.

21. (Previously Presented) The computer readable medium of claim 20 wherein one of the PIT copies of the second data volume is in the virtual state when the second data volume is refreshed to the data contents of the first data volume.

22. (Previously Presented) The computer readable medium of claim 15 wherein the first data volume is a real or virtual PIT copy of another data volume when the second data volume is refreshed to the data contents of the first data volume.

23. (Previously Presented) The computer readable medium of claim 15 wherein the second data volume is a real or virtual PIT copy of another data volume when the second data volume is refreshed to the data contents of the first data volume.

24. (Cancelled)

25. (Cancelled)

26. (Previously Presented) The computer readable medium of claim 15 further comprising an act of preserving the second data volume, wherein said preserving further

comprises creating a PIT copy of the second data volume before or while refreshing the second data volume to the data of the first data volume.

27. (Cancelled)

28. (Cancelled)

29. (Cancelled)

30. (Cancelled)

31. (Cancelled)

32. (Cancelled)

33. (Cancelled)

34. (New) A method comprising:

writing data to first and a second data volumes, wherein

the first data volume is a first primary data volume,

the second data volume is a second primary volume, and

the first and second data volumes are unrelated data volumes;

refreshing the second data volume to the data contents of the first data volume that existed at time T, wherein refreshing the second data volume further comprises

overwriting data of the second data volume with data of the first data volume that existed at time T;

modifying data of the first data volume while the second data volume is being refreshed to the data contents of the first data volume that existed at time T;

modifying data of the second data volume while the second data volume is being refreshed to the data contents of the first data volume that existed at time T; and

modifying data of the first data volume after the second data volume has been refreshed.

35. (New) The method of claim 34, wherein refreshing the second volume further comprises:

generating first and second maps in memory, wherein

each of the first and second maps comprises

a plurality of entries, wherein

each entry of the first map corresponds to a respective memory block that stores data of the first data volume, and

each entry of the second map corresponds to a respective memory block that stores data of the second data volume, and

wherein,

a first bit in each entry of the first map is set to indicate its respective memory block stores valid data, and

a first bit in each entry of the second map is set to indicate its respective memory block stores invalid data.